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EXAMINER

ROJAS, OMAR R

| ART UNIT | PAPER NUMBER |
|----------|--------------|
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2874

DATE MAILED: 07/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/044,390

Applicant(s)

STIEHL ET AL.

Examiner

Omar Rojas

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 1-8 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 9-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 January 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. New corrected drawings are required in this application because the drawings submitted have very poor image contrast. Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

Election/Restrictions

2. Restriction to one of the following inventions is required under 35 U.S.C. 121:
- I. Claims 1-8, drawn to a method of connecting an optical waveguide to a non-fiber optical device using adjustment and alignment, classified in class 385, subclass 91.
 - II. Claims 9-20, drawn to an apparatus coupling an optical connector to photonic device, classified in class 385, subclass 88.

The inventions are distinct, each from the other because of the following reasons:

3. Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the product as claimed can be made with or without active alignment.

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4. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

5. During a telephone conversation with Steven Holmes on June 19, 2003, a provisional election was made without traverse to prosecute the invention of Group II, claims 9-20. Affirmation of this election must be made by applicant in replying to this Office action. Claims 1-8 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Specification

6. The disclosure is objected to because of the following informalities: Page 2, line 29, appears to have a typographical error.

Appropriate correction is required.

Claim Objections

7. Claim 1 is objected to because of the following informalities: Claim 1 contains numerous typographical errors. See page 22, lines 5-7. Appropriate correction is required.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. **Claims 14-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**

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10. Claims 14-20 recite the limitation "said conventional ferrule" in claim 14. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

12. Claims 9-13 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 6,081,638 to Zhou.

Regarding claims 9-13, Zhou shows in Figure 4 an apparatus comprising a substrate assembly (40) including a semiconductor substrate (100) having a vertical cavity surface emitting laser (VCSEL) (102) disposed on a top surface thereof and a photodetector (103) disposed on a bottom surface of said substrate beneath an overhang portion, wherein said substrate includes a pass through portion (110) that may comprise a transparent material or air; and wherein a further semiconductor substrate (101a) is disposed between the photodetector and semiconductor substrate (100). See column 6, lines 34-65. Note it is inherently within the scope of Zhou that the light source (102) may include a wavelength being at least 1.25 microns.

13. Claims 14, 15, and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent no. 6,243,508 to Jewell et al. (hereinafter "Jewell").

Regarding claims 14 and 15, Jewell shows in Figure 16 an optical subassembly module comprising a base unit (81) having a pair of guide pins (84) passing through a substrate assembly (12, 14) and a ferrule (82), said assembly (12, 14) including a VCSEL array (26, 26') and a photodiode (40) and wherein said ferrule (82) is spaced apart from said VCSEL array by a lens array (24).

Regarding claim 20, Jewell discloses that the substrate assembly (12, 14) may comprise a ceramic substrate assembly. See col. 7, ll. 60-62 and col. 8, ll. 59-61.

Claim Rejections - 35 USC § 103

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

16. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jewell as applied to claim 14 and further in view of U.S. Patent No. 5,940,562 to Henson et al. (hereinafter "Henson").

Jewell expressly differs from claim 16 in that Jewell does not disclose providing a latch on the ferrule (82) to mechanically engage the base unit.

Henson, on the hand, shows latches (96, Fig. 8) on an optical connector (98) which engage a housing (94) of an optical subassembly.

The ordinary skilled artisan would have wanted to provide latching means to the connector of Jewell in order to improve the security of the optical connection between the VCSEL and the optical fibers or to provide coupling to a circuit board. See Henson at column 7, lines 41-52.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to modify Jewell to have latches on the connector as specified by claim 16.

17. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jewell.

The examiner incorporates the previous remarks concerning claim 14 herein and further notes that the substrate/plate (14) of Jewell clearly has notches (88) which allow light to pass through.

Thus, Jewell differs from claim 17 in that Jewell does not expressly teach a welding process to connect the ceramic substrate (12) to the plate (14). Instead Jewell appears to expressly teach using an epoxy. Id. at column 9, lines 39-42.

At the time the invention was made it would have been obvious to one of ordinary skill at the time of the claimed invention to modify Jewell to expressly include welding the ceramic substrate (12) to plate (14) instead of using epoxy. This is because welding is a well-known technique for expediently connecting optical substrates in general. Thus, the use of welding instead of epoxy would be a routine design modification.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to modify Jewell to obtain the invention specified by claim 17.

Allowable Subject Matter

18. Claims 18-19 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

19. The following is a statement of reasons for the indication of allowable subject matter: The prior art does not disclose or suggest, alone or in combinations, an optical subassembly module comprising all the features and recited relationships of claim 18 including base unit, guide pins, ferrule, photodiode, VCSEL array, a transparent medium, lens frame, and an adjustable stop member. The prior art does not disclose or suggest, alone or in combinations, an optical subassembly module comprising all the features and recited relationships of claim 19 including base unit, guide pins, ferrule, photodiode, VCSEL array, a transparent medium, lens frame, and a VCSEL frame with recess.

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Conclusion

20. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent No. 6,056,448 discloses VCSEL array package including alignment pins, ferrule, and lens array.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Omar Rojas whose telephone number is (703) 305-8528 and whose e-mail address is *omar.rojas@uspto.gov*. The examiner can normally be reached on Monday-Friday (7:00AM-3:00PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hemang Sanghavi, can be reached on (703) 305-3484. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7722 for regular communications. The examiner's personal work fax number is (703) 746-4751.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Omar Rojas
Patent Examiner
Art Unit 2874

or
June 19, 2003


HEMANG SANGHAVI
PRIMARY EXAMINER